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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,513	02/07/2005	Mats Sagfors	P15287-US1	4394

27045 7590 05/19/2010

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EXAMINER	
SHEDRICK, CHARLES TERRELL	
ART UNIT	PAPER NUMBER
2617	

NOTIFICATION DATE	DELIVERY MODE
05/19/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/501,513	SAGFORS ET AL.	
	Examiner	Art Unit	
	CHARLES SHEDRICK	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *50-53,55-60,62 and 63* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *50-53,55-60 and 62-63* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/25/10 have been fully considered but they are not persuasive.

2. Claim Rejections - 35 U.S.C. §102(b)

a. Applicant argues that Grube fails to teach the allocation of radio resources based on a predicted future data rate, claim 50 is not anticipated by Grube.Whereas independent claim 57 includes analogous limitations, Grube also fails to anticipate that claim. Moreover, whereas claims 51-53 and 55 are dependent from claim 50, and claims 58-60 and 62 are dependent from claim 57, and include the limitations of their respective base claims, those claims are also not anticipated by Grube.

3. However, The Examiner respectfully disagrees. Consider the limitation, a future data rate is predicted. The future data rate includes the bits/time it takes bits to be transferred at time t >0 (e.g., the future) or the expected data rate. Another way to view this statement is that, at time t > 0, a particular data rate is expected and accordingly, an appropriate radio resources are allocated. Consider that the predicted completion time (e.g., seconds) for a message is directly related to the rate at which the bits are transferred (i.e., the data rate = bits/second transferred). The data message includes the number of bits. Therefore, in order to predict the completion time, one must essentially predict or expect what the future data rate will be, albeit the current rate or a different rate (i.e., predicting that that current data rate will be maintained). In the instant case,

the future/expected data rate = $\frac{estimated\_number\_of\_untransmitted\_data\_bits}{predicted\_completion\_time}$

(bits/seconds). Carefully note the units in bits per second reflecting a data rate, which is

predicted/expected to happen (e.g., in the future). As noted, the future data rate is proportional to the predicted time resulting in a predicted data rate. Grube et al. note that the controller calculates the predicted completion time noted above "by dividing the estimate of the number of untransmitted bytes by the current transfer rate of the first number of wireless communication resources" - col. 5 lines 50-57. Furthermore, by allocating a greater number of resources, the transfer rate is increased - col. 6 lines 15-16. Applicant argues that Grube fails to teach the allocation of radio resources based on a predicted future data rate, however, based on the explanation above the examiner respectfully disagree. Furthermore, carefully note that one particular manner in which Grube allocates resources is based on determining if the transfer rate of a application message (e.g., x-ray file) is sufficient to proceed into the future (e.g., t>0) at the current rate or some different rate. In other words, is the current rate a sufficient future transfer rate based on the message length/completion time or does the system need a more comparable future rate via additional resources- col. 5 line 64-col. 6 line 21.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 50-53, 55, 57-60 and 62 are rejected under 35 U.S.C. 102(b) as being anticipated by Grube et al., US Patent No.: 5,583,869, hereinafter, 'Grube'

Consider **claim 50**, Grube teaches a method of channel resource allocation in a wireless communications system(**e.g., method illustrated in figures 2-4**), said method comprising the

steps of: sniffing one or more data transmissions to or from a data provider for information within one or more application-level data packets(**i.e., the controller 108 monitors message transfer as noted in at least -col. 2 lines 66-col. 3 line 4, col. 4 lines 66-67, col. 8 lines 65-67**), the information being related to application-level data object size (**i.e., message length or any other parts of the message (e.g., grade of service etc.) which is hereby interpreted as at least 'related' as noted in at least figure 1, col. 5 lines 7-12 and 47-50**); and allocating radio resources as a function of said data object size(**e.g., a wireless communication resources as noted in at least abstract, figure 2 element 203 and figure 4, col. 3 lines 25-27 and 55-60**), wherein said step of allocating radio resources comprises the step of predicting a future data rate from the information related to data object size (e.**g., resources are allocated based on needs at time t > 0 which involves increasing throughput rate as noted in col. 6 lines 15-16 which is further based on/proportional to the predicted message completion time as noted in figures 2 and 3**).

Consider **claim 57**, Grube A system for channel resource allocation in a wireless communications system, said method comprising: means for sniffing one or more data transmissions to or from a data provider for information within one or more application-level data packets(**i.e., the controller 108 monitors message transfer as noted in at least -col. 2 lines 66-col. 3 line 4, col. 4 lines 66-67, col. 8 lines 65-67**), the information being related to application-level data object size(**i.e., message length or any other parts of the message (e.g., grade of service etc.) which is hereby interpreted as at least 'related' as noted in at least figure 1, col. 5 lines 7-12 and 47-50**); and means for allocating radio resources as a function of said data object size(**e.g., a wireless communication resources as noted in at least abstract,**

figure 2 element 203 and figure 4, col. 3 lines 25-27 and 55-60), wherein said means for allocating radio resources comprises means for predicting a future data rate from the information related to data object size(e.**g., resources are allocated based on needs at time t > 0 which involves increasing throughput rate as noted in col. 6 lines 15-16 which is further based on/proportional to the predicted message completion time as noted in figures 2 and 3**).

Consider **claims 51 and 58 and as applied to claims 50 and 57**, Grube teaches wherein said step of allocating radio resources comprises the step of selecting one or more channel characteristics (**e.g., scheduling of timeslots and shared usage of available resources –figure 3 –element 303 and col. 3 lines 33-39**).

Consider **claims 52 and 59 and as applied to claims 50 and 57**, Grube teaches wherein said one or more data transmissions are sniffed in an uplink direction (**i.e., inbound and outbound traffic corresponds to monitoring traffic on the uplink and downlink based on the outbound and inbound transmission-see outbound and inbound resource allocation noted col. 3 lines 33-53**).

Consider **claims 53 and 60 and as applied to claims 50 and 57**, Grube teaches wherein said one or more data transmissions are sniffed in a downlink direction(**i.e., inbound and outbound traffic corresponds to monitoring traffic on the uplink and downlink based on the outbound and inbound transmission-see outbound and inbound resource allocation noted col. 3 lines 33-53**).

Consider **claims 55 and 62 and as applied to claims 51 and 58**, Grube teaches wherein said channel characteristics are selected from the group consisting of: data rate; dedicated or shared usage; scheduling; modulation; spreading code spreading factor; and transmission

power(**e.g., scheduling of timeslots and shared usage of available resources –figure 3 – element 303 and col. 3 lines 33-39**).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 56 and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grube et al., US Patent No.: 5,583,869, hereinafter, 'Grube' in view of Heller US Patent Pub. No.: 2003/0043844 A1.

Consider **claims 56 and 63 and as applied to claims 50 and 57**, Grube teaches the claimed invention except, wherein one or more of said application-level data packets are cached prior to being transmitted using said radio resources.

However, in analogous art, Heller teaches wherein one or more of said application-level data packets are cached prior to being transmitted using said radio resources (**i.e., packets are stored in cache and upon release transmitted over wireless link as noted in at least paragraph 0033 – see also at least figures 2 and 6 and paragraphs 0031-0032**).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Grube to include wherein one or more of said application-level data packets are cached prior to being transmitted using said radio resources for the purpose of optimizing the wireless link and data transmissions as taught by Heller.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHARLES SHEDRICK whose telephone number is (571)272-8621. The examiner can normally be reached on Monday thru Friday 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571)-272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Charles Shedrick/
Examiner, Art Unit 2617

/LESTER KINCAID/
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